

SECRET

1. A multicomponent superabsorbent particle comprising at least one microdomain of at least one first water-absorbing resin in contact with or in close proximity to at least one microdomain of at least one second water-absorbing resin, wherein the first and second water-absorbing resins, independently, are neutralized 0% to 50%, by weight.
2. The particles of wherein the first water-absorbing resin, the second water-absorbing resin, or both, are neutralized greater than 25% to 50%, by weight.
3. The particles of claim 1 comprising at least one microdomain of at least one basic water-absorbing resin dispersed in a continuous phase of at least one second water-absorbing resin.
4. The particles of claim 1 comprising at least one microdomain of at least one second water-absorbing resin dispersed in a continuous phase of at least one basic first resin.
5. The particles of claim 1 further comprising a matrix resin.

7. The particle of claim 6 wherein the basic resin comprises a strong basic resin, and the acidic resin comprises a strong acidic resin, a weak acidic resin, or a mixture thereof.

9. The particle of claim 1 having a weight ratio of first resin to second resin of about 90:10 to about 10:90.

11. The particle of claim 1 wherein the particle is about 10 to about 10,000 microns in diameter.

12 The particle of claim 6 wherein the basic resin, the acidic resin, or both, are surface crosslinked with up to about 1% by weight of the particle of a surface crosslinking agent.

13. The particle of claim 1 wherein the particle is surface crosslinked with up to about 10,000 ppm of a surface crosslinking agent.

14. The particle of claim 6 wherein at least 6% of the monomer units comprising the basic resin are basic monomer units.

15. The particle of claim 6 wherein the basic resin is selected from the group consisting of a poly(vinylamine), a poly(dialkylaminoalkyl (meth)acrylamide), a polymer prepared from the ester analog of an N-(dialkylamino(meth)acrylamide), a polyethylenimine, a poly(vinylguanidine), a poly-(dimethyldialkyl-ammonium hydroxide), a guanidine-modified polystyrene, a quaternized polystyrene, a quaternized poly(meth)acrylamide or ester analog thereof, poly(vinyl alcohol-co-vinylamine), and mixtures thereof.

16. The particle of claim 6 wherein the acidic resin contains a plurality of carboxylic acid, sulfonic acid, sulfuric acid, phosphonic acid, or phosphoric acid groups, or a mixture thereof.

17. The particle of claim 6 wherein at least 10% of the monomer units comprising the acidic resin are acidic monomer units.

24. A method of claim 23 wherein the aqueous medium contains electrolytes.

25. A method of claim 24 wherein the electrolyte-containing aqueous medium is selected from the group consisting of urine, saline, menses, and blood.

26. A superabsorbent material comprising:

(a) multicomponent superabsorbent particles of claim 1; and

(b) particles of a third water-absorbing resin selected from the group consisting of an acidic water-absorbing resin, a basic water-absorbing resin, and mixtures thereof.

27. The superabsorbent material of claim 26 wherein the multicomponent superabsorbent particles are present in an amount of about 10% to about 90%, by weight, of the material.

28. The superabsorbent material of claim 26 wherein the third water-absorbing resin has a degree of neutralization from 0 to 70.

29. The superabsorbent material of claim 26 wherein the third water-absorbing resin comprises an acidic water-absorbing resin.

30. The superabsorbent material of claim 26 wherein the third water-absorbing resin comprises a basic water-absorbing resin.

31. The superabsorbent material of claim 26 having an absorption under load at 0.7 psi of at least about 20 grams of 0.9% saline per gram of particles, after one hour, and at least about 30 grams of 0.9% saline per gram of particles after three hours.

32. The superabsorbent material of claim 26 having a saline flow conductivity value of greater than $15 \times 10^{-7} \text{ cm}^3\text{sec/g}$.

33. The superabsorbent material of claim 26 having an initial performance under pressure capacity rate of greater than $40 \text{ g/g/hr}^{1/2}$.

34. The superabsorbent material of claim 26 having a free swell rate greater than 0.30 g/g/sec .

35. An article comprising superabsorbent material of claim 25.

36. The article of claim 35 wherein the article is a diaper or a catamenial device.

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37. A diaper having a core, said core comprising at least 15% by weight of multicomponent superabsorbent particles, wherein each multicomponent superabsorbent particle comprises at least one microdomain of a first water-absorbing resin in contact with or in close proximity to at least one microdomain of a second water-absorbing resin, and wherein the first and second water-absorbing resins of the multicomponent superabsorbent particles, independently, are neutralized 0% to 50%, by weight.

38. The diaper of claim 37 wherein the core has an acquisition rate for 100 milliliters of 0.9% saline under a load of 0.7 psi greater than two milliliters/second.

39. The diaper of claim 38 wherein the core has an acquisition rate for a subsequent 50 milliliters of 0.9% saline of greater than two milliliters/second.

40. The diaper of claim 39 wherein the core has an acquisition rate for a second subsequent 50 milliliters of 0.9% saline of greater than two milliliters/second.

41. The diaper of claim 36 wherein the core comprises at least 75% by weight multicomponent superabsorbent particles.

42. The diaper of claim 37 wherein the core comprises 100% by weight multicomponent superabsorbent particles.

49. The diaper of claim 46 wherein the core comprises at least 75% by weight of the super-absorbent material of claim 1.

51. The diaper of claim 46 further comprising a topsheet in contact with a first surface of the core, and a backsheet in contact with a second surface of the core, said second core surface opposite from said first core surface.

53. The diaper of claim 46 wherein the diaper is free of an acquisition layer.

54. A method of increasing an acquisition rate and decreasing an acquisition time of a diaper core in an absorption of a liquid comprising substituting at least 15% by weight of a superabsorbent polymer present in the diaper core with multicomponent superabsorbent particles of claim 1.